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DORSEY & WHITNEY LLP
INTELLECTUAL PROPERTY DEPARTMENT
SUITE 3400
1420 FIFTH AVENUE
SEATTLE, WA 98101

EXAMINER	
WANG, JIN CHENG	

ART UNIT	PAPER NUMBER
2672	11

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/715,428	BENTZ, OLE	
	Examiner	Art Unit	
	Jin-Cheng Wang	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The amendment filed on 10/20/2003 has been entered. Claim 2 has been canceled. Claims 1, 3-35 are pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 10, 20-21, 25-28, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Grossman et al. U.S. Pat. No. 5,230,039 (hereafter Grossman).

4. Claim 1:

Grossman teaches a method for calculating texture coordinates (i.e., manipulating pixel coordinates and handling out-of-range texture coordinates, see the abstract) in a graphics processing system (figure 1) for a texture map having an acceptable range of coordinate values (i.e., the range of texture map), comprising:

Determining whether an input texture coordinate value is located within one of a plurality of predefined negative or positive input ranges or the acceptable range of coordinate values (see the abstract; column 9, lines 52-67, and column 10, lines 1-16);

Calculating a texture coordinate value for each of the predefined input ranges (e.g., scaling and masking pixel coordinates and handling out-of-range texture coordinates, see the abstract; (column 9, lines 52-67, and column 10, lines 1-16); and

Selecting from the calculated texture coordinate values and the input texture coordinate value which one to be provided as a corresponding texture coordinate (this includes the selection of a texture map mode) based on the sign of the input texture coordinate value and of the calculated texture coordinate values (i.e., a sign bit 308 in figure 3a completes the field definition for coordinate 301 by indicating a negative or positive coordinate value, see column 9, lines 60-67, column 10, lines 1-49).

- Note:
- Grossman teaches a plurality of predefined input ranges such as the input ranges for the input regions shown in figure 6 and/or each of the respective input ranges for each of the texture coordinate axis.
- Grossman teaches calculated texture coordinate values in terms of the border values of the texture map or the masked input coordinate or the interpolated input coordinate or the manipulated texture coordinates. The texture values for the borders of the texture regions have been calculated with respect to each texture map.
- Grossman teaches selecting from the calculated texture coordinate values (e.g., the border values of the texture map or the masked input coordinate or the interpolated input coordinate or the manipulated texture coordinates; these texture coordinate values have the sign bits associated with them) and the input texture coordinate

values (e.g., the original or unmodified input coordinates or the masked input coordinates or the interpolated input coordinates or the manipulated texture coordinates) based on the signs of the input texture coordinate (e.g., the sign bits of the input texture coordinates) and the signs of the calculated texture coordinate values (e.g., the sign bits of the border values of the texture map or the masked input coordinates or the interpolated input coordinates or the manipulated texture coordinates).

- Grossman further teaches applying successive texture maps to the input texture coordinates using a plurality of texture mapping modes wherein the calculated texture coordinate values and signs in the preceding texture map as well as the input texture coordinate values and signs are involved in the next texture map implementation.

Claim 3:

The claim 3 encompasses the same scope of invention as that of claim 2 except additional claimed limitation of remapping being performed for each axis of the texture map. However, Grossman further discloses the claimed limitation of remapping being performed for *each axis* of the texture map (column 9, lines 10-41).

5. Claim 10:

Grossman teaches a method of calculating a texture coordinate (see the abstract) for a texture map from an input texture coordinate value located in one of a plurality of predefined input ranges (column 9, lines 5-41), comprising

Calculating a plurality of texture coordinate values corresponding to the plurality of predefined input coordinate ranges in accordance with the sign of the input coordinate value (column 9, lines 5-41);

Selecting an output texture coordinate from the plurality of calculated texture coordinate values and the input texture coordinate value based on the sign of the input texture coordinate and the sign of the calculated texture coordinate values (column 9, lines 52-67, and column 10, lines 1-16).

Claim 20:

The claim 20 encompasses the same scope of invention as that of claim 10 except additional claimed limitation of determining, calculating, and selecting being repeated for each axis of the texture map. However, Grossman further discloses the claimed limitation of determining, calculating, and selecting being repeated for each axis of the texture map (column 11, lines 1-28).

Claim 21:

Grossman teaches a method for calculating texture coordinates (see the abstract) in a graphics processing system (figure 1), wherein texture coordinates are within an acceptable range of texture coordinates (column 9, lines 5-41), comprising:

Determining whether an input texture coordinate is located in the acceptable range of texture coordinates (column 9, lines 5-41),

Calculating a coordinate value for each of the negative input ranges in accordance with the sign of the input texture coordinate (column 9, lines 5-41); and

Selecting an output texture coordinate from the calculated coordinate values and the input texture coordinate (column 9, lines 5-41) in accordance with the sign of the input texture coordinate and the calculated coordinate values and a selected addressing mode (column 9, lines 5-67, and column 10, lines 1-49).

Claim 25:

The claim 25 encompasses the same scope of invention as that of claim 21 except additional claimed limitation of determining, calculating, and selecting being repeated for each axis of the texture map. However, Grossman further discloses the claimed limitation of determining, calculating, and selecting being repeated for each axis of the texture map (column 11, lines 1-28).

6. Claim 26:

Grossman has taught a texture address circuit (figures 4-5) for calculating texture coordinates for a texture map having a size and an acceptable range of input coordinate values (column 10, lines 28-49), the circuit comprising:

A plurality of coordinate calculation circuits (figure 4) corresponding to a plurality of input coordinate ranges defined outside of the acceptable range for both negative and positive input coordinate values (column 10, lines 28-49), each coordinate calculation circuit (Mask register 430 and compare register 432) coupled to receive a signal corresponding to the sign of the input coordinate value and a respective texture size value corresponding to a multiple of the size of the texture map (column 10, lines 28-49), each coordinate calculation circuit providing a respective coordinate output value (column 10, lines 28-49);

A selection circuit (e.g., compare registers 432 and 433) coupled to receive as input values the input coordinate (column 10, lines 52-67) and the coordinate output values of the plurality of coordinate calculation circuits (column 11, lines 1-28), the selection circuit selecting one of the input values as an output texture coordinate value (e.g., the compare value obtained from a compare register is tested against the masked value produced in processing block 503 and the result of this test determines whether or not an input coordinate is within a particular s, t coordinate range in which texturing is enabled. See column 11, lines 1-28); and

Select logic (figures 5a and 5b) coupled to the selection circuit and further coupled to receive input signals corresponding the sign of the input coordinate value (e.g., the outside map factor field and the sign bit of the input coordinate is obtained at processing block 502) and the signs of the coordinate output values (A mask value is obtained from mask register A or mask register B, see column 11, lines 1-7), the select logic providing a selection signal commanding the selection circuit to select one of the input values as the output texture coordinate in accordance with the received input signals (column 10, lines 52-67, and column 11, lines 1-28).

Claim 27:

The claim 27 encompasses the same scope of invention as that of claim 26 except additional claimed limitation of the first and second coordinate calculation circuits of the plurality. However Grossman further discloses the claimed limitation of the first and second coordinate calculation circuits of the plurality (column 10, lines 52-67, and column 11, lines 1-28) comprising:

A negating circuit coupled to receive a respective texture size value and the signal corresponding to the sign of the input coordinate value, the negating circuit generating as an

output value a positive or negative respective texture size value in accordance with the sign of the input coordinate value (column 10, lines 4-49); and

A summing circuit having a first input coupled to receive the output value of the negating circuit and a second input for receiving a second input value, the summing circuit further having an output to provide the sum of the output value of the negating circuit and a value received by at the second input (column 10, lines 52-67, and column 11, lines 1-28).

Claim 28:

Grossman teaches the negate circuit comprising an inverter and an exclusive OR gate (column 10, lines 52-67, and column 11, lines 1-28).

Claim 33:

Grossman teaches the select logic generates a selection signal to select the output texture coordinate (column 10, lines 52-67, and column 11, lines 1-28).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4-9, 11-19, 22-24, 29-32, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman et al. U.S. Pat. No. 5,230,039.

9. Claims 4-9:

(a) The claims 4-9 encompasses the same scope of invention as that of claim 2 except additional claimed limitation of the specific formula for calculating the texture coordinates as recited in claims 4, 6, and 8 and the specific way of selecting the corresponding texture coordinates as recited in claims 5, 7 and 9.

(b) However, Grossman is silent on the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates.

(c) The Dye reference has taught the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates (see for example columns 25-36).

(d) It would have been obvious to one of ordinary skill in the art to have incorporated the Dye's specific formula for calculating the texture coordinates and specific way of selecting the corresponding texture coordinates into Grossman et al.'s texture addressing circuit because Grossman et al suggest the use of texture clamping (column 10, lines 4-16), the texture addressing circuit in figure 4, and the processing logic in figures 5a and 5b. With regards to the specific formula for calculating the texture coordinates, Grossman et al. further suggest linear interpolation of texture coordinates (column 9, lines 5-9) and the field definitions within an input texture map coordinate that supports clamping and a multi-pass technique for tiling large texture maps wherein an field is used to expand the address space of textures beyond the zero to one coordinate range stored in a hardware texture map (column 9, lines 10-41). With regards to the specific way of selecting texture coordinates, Grossman et al. further suggest in the processing logic that the compare value obtained from a compare register is tested against the masked value produced in processing block 503 and the result of this test determines whether or not an input

coordinate is within a particular s,t coordinate range in which texturing is enabled (column 11, lines 1-28). Finally, it would have been obvious to one of ordinary skill in the arts to have incorporated the specific formula of calculating texture coordinates together with the specific way of selecting texture coordinates for texture remapping (or clamping) so that out-of-range texture coordinates can be re-mapped to the range of a texture map including the border of the range of the texture map. It is noted that the Grossman's reference deal with the same subject matter relating to texture addressing circuit in a graphics processing system.

(e) One having the ordinary skill in the art would have been motivated to do this because it would have provided a means for controlling texture mapping of pixels outside the range of the texture map (column 10, lines 4-16) and realistic portrayal of the actual finished product in texture mapping (column 1, lines 31-63).

10. Claims 11-16:

(a) The claims 11-16 encompasses the same scope of invention as that of claim 10 except additional claimed limitation of the specific formula for calculating the texture coordinates as recited in claims 11, 13, and 15 and the specific way of selecting the corresponding texture coordinates as recited in claims 12, 14 and 16.

(b) However, Grossman is silent on the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates.

(c) The Dye reference has taught the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates (see for example columns 25-36).

(d) It would have been obvious to one of ordinary skill in the art to have incorporated the Dye's specific formula for calculating the texture coordinates and specific way of selecting the corresponding texture coordinates into Grossman et al.'s texture addressing circuit because Grossman et al suggest the use of texture clamping (column 10, lines 4-16), the texture addressing circuit in figure 4, and the processing logic in figures 5a and 5b. With regards to the specific formula for calculating the texture coordinates, Grossman et al. further suggest linear interpolation of texture coordinates (column 9, lines 5-9) and the field definitions within an input texture map coordinate that supports clamping and a multi-pass technique for tiling large texture maps wherein an field is used to expand the address space of textures beyond the zero to one coordinate range stored in a hardware texture map (column 9, lines 10-41). With regards to the specific way of selecting texture coordinates, Grossman et al. further suggest in the processing logic that the compare value obtained from a compare register is tested against the masked value produced in processing block 503 and the result of this test determines whether or not an input coordinate is within a particular s,t coordinate range in which texturing is enabled (column 11, lines 1-28). Finally, it would have been obvious to one of ordinary skill in the arts to have incorporated the specific formula of calculating texture coordinates together with the specific way of selecting texture coordinates for texture remapping (or clamping) so that out-of-range texture coordinates can be re-mapped to the range of a texture map including the border of the range of the texture map. It is noted that the Grossman's reference deal with the same subject matter relating to texture addressing circuit in a graphics processing system.

(e) One having the ordinary skill in the art would have been motivated to do this because it would have provided a means for controlling texture mapping of pixels outside the range of the

texture map (column 10, lines 4-16) and realistic portrayal of the actual finished product in texture mapping (column 1, lines 31-63).

Claim 17:

The claim 17 encompasses the same scope of invention as that of claim 16 except additional claimed limitation of clamping the selected output texture coordinate comprising clamping the output texture coordinate to an edge value along an edge of the texture map. However, Grossman further discloses the claimed limitation of clamping the selected output texture coordinate comprising clamping the output texture coordinate to an edge value along an edge of the texture map (column 10, lines 4-16).

Claim 18:

The claim 18 encompasses the same scope of invention as that of claim 16 except additional claimed limitation of clamping the selected output texture coordinate comprising clamping the output texture coordinate to a border value one texel beyond the texture map. However, Grossman further discloses the claimed limitation of clamping the selected output texture coordinate comprising clamping the output texture coordinate to a border value one texel beyond the texture map (column 10, lines 4-16).

Claim 19:

The claim 19 encompasses the same scope of invention as that of claim 16 except additional claimed limitation of clamping the selected output texture coordinate comprising clamping the output texture coordinate to a border value half of a texel beyond the texture map. However, Grossman further discloses the claimed limitation of clamping the selected output

texture coordinate comprising clamping the output texture coordinate to a border value half of a texel beyond the texture map (column 10, lines 4-16).

11. Claims 22-23:

(a) The claim 22 or 23 encompasses the same scope of invention as that of claim 21 except additional claimed limitation of the specific formula for calculating the texture coordinates as recited in claim 22 or the specific way of selecting the corresponding texture coordinates as recited in claim 23.

(b) However, Grossman is silent on the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates.

(c) The Dye reference has taught the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates (see for example columns 25-36).

(d) It would have been obvious to one of ordinary skill in the art to have incorporated the Dye's specific formula for calculating the texture coordinates and specific way of selecting the corresponding texture coordinates into Grossman et al.'s texture addressing circuit because Grossman et al suggest the use of texture clamping (column 10, lines 4-16), the texture addressing circuit in figure 4, and the processing logic in figures 5a and 5b. With regards to the specific formula for calculating the texture coordinates, Grossman et al. further suggest linear interpolation of texture coordinates (column 9, lines 5-9) and the field definitions within an input texture map coordinate that supports clamping and a multi-pass technique for tiling large texture maps wherein an field is used to expand the address space of textures beyond the zero to one coordinate range stored in a hardware texture map (column 9, lines 10-41). With regards to the

specific way of selecting texture coordinates, Grossman et al. further suggest in the processing logic that the compare value obtained from a compare register is tested against the masked value produced in processing block 503 and the result of this test determines whether or not an input coordinate is within a particular s,t coordinate range in which texturing is enabled (column 11, lines 1-28). Finally, it would have been obvious to one of ordinary skill in the arts to have incorporated the specific formula of calculating texture coordinates together with the specific way of selecting texture coordinates for texture remapping (or clamping) so that out-of-range texture coordinates can be re-mapped to the range of a texture map including the border of the range of the texture map. It is noted that the Grossman's reference deal with the same subject matter relating to texture addressing circuit in a graphics processing system.

(e) One having the ordinary skill in the art would have been motivated to do this because it would have provided a means for controlling texture mapping of pixels outside the range of the texture map (column 10, lines 4-16) and realistic portrayal of the actual finished product in texture mapping (column 1, lines 31-63).

Claim 24:

The claim 24 encompasses the same scope of invention as that of claim 23 except additional claimed limitation of clamping the selected output texture coordinate to a clamped value in the third addressing mode. However, Grossman further discloses the claimed limitation of clamping the selected output texture coordinate to a clamped value in the third addressing mode (column 10, lines 4-16).

12. Claims 29-32 and 34-35:

(a) The claims 29-32 and 34 encompasses the same scope of invention as that of claim 27 except additional claimed limitation of the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates.

(b) However, Grossman is silent on the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates.

(c) The Dye reference has taught the specific formula for calculating the texture coordinates and the specific way of selecting the corresponding texture coordinates (see for example columns 25-36).

(d) It would have been obvious to one of ordinary skill in the art to have incorporated the Dye's specific formula for calculating the texture coordinates and specific way of selecting the corresponding texture coordinates into Grossman et al.'s texture addressing circuit because Grossman et al suggest the use of texture clamping (column 10, lines 4-16), the texture addressing circuit in figure 4, and the processing logic in figures 5a and 5b. With regards to the specific formula for calculating the texture coordinates, Grossman et al. further suggest linear interpolation of texture coordinates (column 9, lines 5-9) and the field definitions within an input texture map coordinate that supports clamping and a multi-pass technique for tiling large texture maps wherein an field is used to expand the address space of textures beyond the zero to one coordinate range stored in a hardware texture map (column 9, lines 10-41). With regards to the specific way of selecting texture coordinates, Grossman et al. further suggest in the processing logic that the compare value obtained from a compare register is tested against the masked value produced in processing block 503 and the result of this test determines whether or not an input coordinate is within a particular s,t coordinate range in which texturing is enabled (column 11,

lines 1-28). Finally, it would have been obvious to one of ordinary skill in the arts to have incorporated the specific formula of calculating texture coordinates together with the specific way of selecting texture coordinates for texture remapping (or clamping) so that out-of-range texture coordinates can be re-mapped to the range of a texture map including the border of the range of the texture map. It is noted that the Grossman's reference deal with the same subject matter relating to texture addressing circuit in a graphics processing system.

(e) One having the ordinary skill in the art would have been motivated to do this because it would have provided a means for controlling texture mapping of pixels outside the range of the texture map (column 10, lines 4-16) and realistic portrayal of the actual finished product in texture mapping (column 1, lines 31-63).

Claim 35:

The claim 35 encompasses the same scope of invention as that of claim 34 except additional claimed limitation of a clamping circuit coupled to receive the output texture coordinate of the selection circuit when in the clamping mode and provide a clamped output texture coordinate. However, Grossman further discloses the claimed limitation of a clamping circuit coupled to receive the output texture coordinate of the selection circuit when in the clamping mode and provide a clamped output texture coordinate (column 10, lines 4-16).

Remarks

13. Applicant's arguments, filed 10/20/2003, paper number 10, have been fully considered but they are not deemed to be persuasive.

14. Applicant argues in essence that:

"...the selection described in the Grossman patent is not based on (1) the sign of the input texture coordinate value and (2) the signs of the calculated texture coordinate values."

This is not found persuasive because as noted above in the rejection of claim 1,

- Grossman teaches a method for texture mapping including manipulating pixel coordinates and handling out-of-range texture coordinates in a graphics processing system (figure 1), comprising determining whether an input texture coordinate value is located within one of a plurality of predefined negative or positive input ranges or the acceptable range of coordinate values (e.g., Grossman teaches a sign bit 308 in figure 3a completes the field definition for coordinate 301 by indicating a negative or positive coordinate value; see the abstract; column 9, lines 52-67, and column 10, lines 1-16); Calculating texture coordinate values for each of the predefined input ranges (e.g., *scaling and masking* texture coordinates and handling out-of-range texture coordinates; see the abstract; column 9, lines 52-67, and column 10, lines 1-16); and selecting from the calculated texture coordinate values (e.g., *calculating the most/least positive border of the texture map depending on the sign of the input out-of-range texture coordinate values*; see the abstract) and the input texture coordinate value which one to be provided as a corresponding texture coordinate (this includes selecting one of the texture mapping modes) based on the signs of the input texture coordinate values and the signs of the calculated texture coordinate values (i.e., the sign bits of the borders of the texture map; column 9, lines 60-67, column 10, lines 1-49).
- The examiner asserts that Grossman teaches calculating texture coordinate values because determining if the input coordinate is within the selected coordinate range

inherently incurs *calculating, scaling and masking* the input texture coordinates. Moreover, Grossman teaches selecting the texture coordinate values from the calculated texture coordinate values and the input texture coordinate values because the calculated texture coordinate values and input texture coordinate values can be selected for texturing based on the texture map mode. For example, when the clamping texture mode is selected, the texture coordinate values are selected from the input texture coordinate values for within the range input texture coordinates and the texture coordinate values are selected from the calculated texture coordinate values (e.g., the values corresponding to pixels on a corresponding border of the texture map have to be determined based on the *signs* of the pixels outside the texture map; see column 10) for the pixels outside the texture map in which *texture coordinate values are selected based on the signs of the pixels outside the texture map and signs of the texture values corresponding to pixels on the corresponding border of the texture map*. When the select texture mode is selected, the texture coordinate values are selected from the input texture coordinate values for pixels *outside* the selected coordinate range wherein the determination of whether the input texture coordinate values are outside the texture map is *based on the sign (negative or positive coordinate) of the input texture coordinate values* and the texture coordinate values are selected from the calculated texture coordinate values (because the input texture coordinate values have been subject to decal operations) for pixels *inside* the texture map based on the *sign of the calculated texture coordinate values because whether the decal texture coordinate values (the calculated texture coordinate values)*

fall inside the texture map is determined from the sign bit of the calculated texture coordinate values (see column 9 and 10).

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (703) 605-1213. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6606 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 395-3900.

jcw
January 8, 2004

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600